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REPORT OF A FIFTH SERIES OF CASES OF
ENTERIC OR TYPHOID FEVER TREATED
BY SYSTEMATIC COLD BATHING IN
THE GERMAN HOSPITAL,
PHILADELPHIA.

BY

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FROM the introduction of the treatment of enteric fever by systematic cold bathing according to the method of Brand, in the German Hospital, February, 1890, until June 1, 1892, 226 cases were treated, of which number twelve terminated fatally, giving a death-rate of 5.3 per cent. The hospital statistics relating to the subject were published in detail in this journal last year.¹

During the year terminating June 1, 1893, 74 additional cases have been treated by this method, bringing the total number up to 300.

The following table, compiled from the records of the hospital by Dr. Hand, resident physician, shows in detail the date of admission, the sex, age, the day of the disease as nearly as could be ascertained upon which the patient entered the hospital, the highest recorded temperature, the first day of the attack upon which the temperature fell to normal, the number of days in the house, and the number of baths administered in each case:

¹ MEDICAL NEWS, November 26, 1892.

CASES OF ENTERIC FEVER TREATED BY SYSTEMATIC COLD BATHING.

Series No. 5. June 1, 1892, to June 1, 1893.

No.	Admitted.	Sex.	Age.	Day of dis- ease.	Max. temp.	First day normal temp.	Days in house.	No. of baths.
1	May 25	F.	25	10	105.8	38	61	151 ¹
2	June 3	M.	15	8	104.8	22	39	33 ²
3	7	F.	19	10	105.8	30	60	94
4	9	F.	16	...	.....	...	16	8
5	21	M.	22	8	104.4	15	30	31
6	22	F.	29	...	.....	...	34	28
7	July 14	M.	36	10	105	...	16	69 ³
8	15	M.	26	5	105.6	23	42	67
9	24	M.	36	6	104.8	15	40	43
10	29	M.	24	12	104.2	18	28	23
11	29	F.	21	4	104.4	17	49	109 ⁴
12	Aug. 3	M.	38	7	104.2	15	40	34 ⁵
13	4	F.	30	3	104.6	17	48	53
14	11	F.	21	14	103.4	31	63	53 ⁶
15	12	M.	18	3	104.4	10	31	47
16	12	M.	25	4	104.2	18	43	66 ⁷
17	16	M.	46	...	104	...	29	31
18	18	M.	16	6	104.2	18	42	12 ⁸
19	18	F.	18	12	102.4	18	37	7
20	25	M.	33	8	104	16	24	29
21	30	M.	32	6	103	13	31	8
22	Sept. 1	M.	22	...	102.2	...	19	2
23	1	M.	31	7	103.6	22	29	17
24	1	M.	26	14	105.2	28	29	59 ⁹
25	4	M.	28	5	104	12	21	20
26	4	F.	66	30	104.4	47	51	24
27	7	M.	18	4	104.6	12	40	31
28	16	M.	19	...	.....	...	34	69
29	21	F.	31	7	104.4	16	33	25
30	23	F.	27	4	104.8	15	29	37
31	23	M.	30	...	104.6	...	34	32
32	26	F.	19	10	105.4	16	23	97 ¹⁰
33	Oct. 8	M.	32	4	105.6	19	34	61
34	10	M.	23	...	104.6	...	23	31
35	12	M.	28	...	103.4	...	19	3
36	16	F.	24	7	104.2	14	50	19 ¹¹
37	31	M.	17	...	104	...	29	2
38	Nov. 2	M.	23	...	106.2	...	42	17

¹ One relapse.

³ Death.

⁵ One relapse.

⁷ *Vide* post-mortem note.

⁹ One hemorrhage.

¹¹ One relapse.

² Repeated hemorrhages.

⁴ One relapse.

⁶ One relapse.

⁸ Repeated hemorrhages.

¹⁰ Relapse and death.

No.	Admitted.	Sex.	Age.	Day of disease.	Max. temp.	First day normal temp.	Days in house.	No. of baths.
39	4	M.	23	...	104	...	29	3
40	4	M.	22	...	104.6	...	29	14
41	6	M.	23	...	105.4	...	21	41
42	13	M.	19	...	104.2	...	22	12
43	17	M.	19	...	104.2	...	30	64
44	Dec. 15	M.	27	...	104.6	...	31	82
45	16	M.	46	...	103.4	...	28	22
46	19	M.	21	...	106	...	40	195 ¹
47	31	F.	19	4	104.4	11	26	24 ²
48	Jan. 3	F.	17	5	104.8	23	37	21
49	Feb. 18	M.	20	7	105	...	12	34 ³
50	20	M.	23	9	102.2	15	21	3
51	23	M.	49	...	102.6	...	35	7
52	23	M.	19	7	104	15	32	48
53	24	M.	15	6	106.2	...	17	113 ⁴
54	25	M.	24	7	104	17	42	67 ⁵
55	Mar. 3	M.	30	...	105	...	39	20 ⁶
56	3	F.	22	5	104	45	82	147
57	12	F.	18	4	103.4	14	69	12 ⁷
58	28	M.	26	7	106.4	...	20	123 ⁸
59	29	F.	19	4	104.4	16	38	47
60	April 3	F.	28	8	105.8	29	77	105
61	5	M.	26	3	104.4	21	37	103
62	12	M.	24	8	104.8	...	8	45 ⁹
63	22	M.	42	8	105.2	26	43	60
64	23	F.	29	12	103.2	18	70	4 ¹⁰
65	May 5	F.	27	6	104	14	29	16
66	9	F.	18	2	105	19	41	20
67	10	F.	29	5	104.6	20	35	38
68	12	M.	20	8	105	16	27	36
69	13	M.	18	12	105.8	...	20	95 ¹¹
70	15	M.	21	8	104.6	18	70	76 ¹²
71	20	F.	20	2	105.4	16	37	53
72	29	M.	18	10	103.8	22	20	28
73	29	F.	25	3	105	20	89	75
74	30	F.	25	3	104.8	19	49	25

Total number of cases, 74; deaths, 8; mortality, 10.8 per cent. Relapses, 10—13.5 per cent.

¹ Relapse and death.

² One relapse.

³ Repeated hemorrhages, pneumonia, and death.

⁴ Meningitis and death.

⁵ One relapse.

⁶ One hemorrhage.

⁷ Lobar pneumonia on the twenty-first day.

⁸ Death.

⁹ Hemorrhages and death.

¹⁰ Remained for treatment for organic nervous disease.

¹¹ Hemorrhages and death.

¹² One relapse.

The patients were chiefly adolescents and young adults. Children are not received into these wards, as there is in connection with the hospital a children's infirmary; 58 cases (78 per cent.) were under 30 years of age.

From 15 to 20 years	.	.	.	.	20
" 20 " 25 "	.	.	.	.	21
" 25 " 30 "	.	.	.	.	17
" 30 " 35 "	.	.	.	.	8
" 35 " 40 "	.	.	.	.	3
" 40 " 45 "	.	.	.	.	1
" 45 " 50 "	.	.	.	.	3
66 years .	.	.	.	.	1
Total	.	.	.	.	74

Baths : Average number, 44; smallest, 2; largest, 195. Average number of days in the hospital of the non-fatal cases, 33.

Notes on the fatal cases :

No. 7.—G. H., male, thirty-six years of age, was admitted on the tenth day of the disease, having had hemorrhages before admission; he lived sixteen days in the hospital.

No. 32.—M. L., female, nineteen years of age, was admitted on the tenth day of the disease; normal temperature on the sixteenth; relapse on the nineteenth; death on the thirty-third.

No. 46.—A. K., male, twenty-one years of age, admitted in a very weak condition; about the second week of the disease, pulse 172, temperature 106°; improved with the baths, and temperature came down to normal; after a week, relapse began; emaciation extreme; death at the end of the second week of the relapse.

No. 49.—J. K., male, twenty years of age, admitted on the seventh day of the disease; hemorrhages on the ninth day; pneumonia on the fourteenth day; death on the nineteenth day.

No. 53.—G. S., male, fifteen years of age, admitted on the sixth day of the disease; in the morning remissions during the first week the temperature was but twice down to 103.5°; highest temperature

106.2°; developed meningitis and died on the twenty-second day.

No. 58.—B. S., male, twenty-six years of age, admitted on the seventh day of the disease and had great mental depression from the outset; died on the twenty-seventh day.

No. 62.—J. C., male, twenty-four years of age, a "walking case," admitted on the eleventh day of the disease, with spots; hemorrhages on the fourteenth and fifteenth days; passing by the bowel one hundred and seven ounces of material consisting largely of blood; death on the fifteenth day.

No 69.—W. C., male, colored, eighteen years of age, admitted on the twelfth day of the disease; hemorrhages on the twenty-fifth and twenty-sixth days of the disease; death on the thirty-first.

The total number of cases treated by this method to June 1, 1893, is 300; total deaths, 20—giving a death-rate of 6.6 per cent. In the entire series of 300 cases relapses occurred in 29 instances; more than one relapse in two cases.

The following statistics, though based on a relatively small number of cases, support the generally accepted statement of Brand that the influence of the treatment upon the mortality is proportionately favorable as it is instituted early in the course of the attack.

In Series No. 5, 20 cases were admitted on or before the fifth day of the disease; of these, none died. Forty-two cases were admitted prior to the tenth day; of these, 4 died, giving a mortality of 9.5 per cent. Twelve cases were admitted after the tenth day; of these, 3 died, giving a mortality of 25 per cent. The day of the disease upon which the patient was admitted to the hospital was not noted in 20 cases.

In Series No. 4,¹ 12 cases were admitted on or before the fifth day; of these, 1 died fifteen days later of a complicating meningitis. Thirty-six cases

¹ THE MEDICAL NEWS, November 26, 1892.

were admitted before the tenth day ; of these, 2 died, giving a mortality of 5.5 per cent. Six were admitted after the tenth day, with 1 death, giving a mortality of 16 per cent. The day of admission was not noted in 24 cases.

Taking Series 4 and 5 together, we note that of 32 cases admitted not later than the fifth day 1, or about 3 per cent., terminated fatally. In 78 cases admitted prior to the tenth day, the death-rate was 7.7 per cent., and in 18 cases admitted after the tenth day the death-rate was 22 per cent.

The dictum of Brand, that none of the cases in which the treatment is instituted prior to the fifth day are likely to terminate fatally, is well known. The fatal case in the fourth series, a boy aged thirteen, was admitted on the third day. The cause of death in this case, however, was meningitis occurring as an early complication.

In civil practice, except in local epidemics, the positive diagnosis of enteric fever can rarely be made as early as the fifth day. In hospital practice only a small portion of the enteric fever cases are received before the fifth day. In the service of the German Hospital patients are subjected to the bath-treatment if, upon admission, the diagnosis of enteric fever is probable or becomes so by exclusion. This practice has led to very few errors in diagnosis.

It is understood that in by far the greatest number of instances the date of the beginning of the fever can only be approximately determined ; only exceptionally does the disease begin with an abruptness that fixes definitely the day or hour of its onset. The general rule in taking the cases has been to date the beginning of the attack from the day on which the patient regarded himself as having fever or on which he was obliged to give up his occupation. The appearance of the eruption and enlargement of the spleen, which usually may be noted on the seventh or eighth day, rarely as early as the sixth

and seldom so late as the tenth, are clinical events which aid in fixing the date of onset.

Ephraim, of Breslau, in a recent communication on "The Significance of the Statistical Method in Medicine,"¹ says: "The statistics of the cold-water treatment of enteric fever are untrustworthy because this disease shows the widest variations in its prognosis, and because for this reason an enormous number of observations are necessary to establish the value of a method of treatment."

The treatment of enteric fever by systematic cold bathing according to the method of Brand now rests upon statistics that fulfil the second requirement of this criticism. The number of reported cases is enormous. They are the results of work done by different observers in all parts of the world, and many of the collections of cases, as those of Brand himself, those of the military physicians at Lyons, those of Hare of Australia, are sufficiently large in themselves to establish the value of this method of treatment.

To these we may now add the statistics of the German Hospital in Philadelphia, which are based upon the observation of a sufficient number of cases and extend over a period of time sufficiently extended to eliminate in part at least the errors arising from the variations in the prognosis of individual cases and in the intensity of epidemics in different years.

Certainly the literature of internal medicine shows no aggregate of statistics in regard to the treatment of any other disease that has reached such proportions and in which the treatment has been carried out with the same rigid adherence to rule.

A remarkable and instructive fact is this, that the statistics from various quarters and from relatively large and small collections of cases show a mortality

¹ Sammlung klinischer Vorträge, Volkmann, No. 70, 1893.

percentage that is as a rule nearly constant, so that we may now regard it as demonstrated that the death-rate of enteric fever under the treatment of Brand, instituted early in the attack and rigorously carried out, does not range beyond 6 or 7 per cent., while the general statistics show a mortality under various other forms of treatment, most of which are essentially expectant-symptomatic, ranging from 15 to 25 per cent., and exceptionally, far higher.

It seems hardly necessary to dwell upon the importance of this difference in death-rate. What argument in favor of the treatment by systematic cold bathing can be more urgent or more conclusive? From eight to fifteen or more lives saved in every hundred cases, and this in the endemic fever of our historic period—an infection from the effects of which no large community is ever free—which is kept alive and fostered by the methods of living in civilized countries in this age! The from eight to fifteen lives lost in every hundred by adherence to obsolete and traditional methods are, as a rule, picked lives. They are taken from the best—adolescents, young adults, the very flower and hope in every community. This is not the place to speak of the emotional effects of this sacrifice of life to routine. It is, however, proper to suggest the economic aspect of the matter, the appalling waste of young life that could so easily be saved.

We in the Western world are in the habit of speaking somewhat scornfully of Oriental apathy. Enteric fever and tuberculosis, the endemic scourges of our civilization, are in theory at least preventable diseases. Enteric fever is a disease in which, as has been demonstrated, the death-rate can be lowered from between 15 and 25 per cent., to 6 or 7 per cent., by the abandonment of traditional methods of treatment and the adoption of a different plan. Yet the older methods prevail.

Redmond, in a paper read before the British Medi-

cal Association in August, 1893,¹ makes the following remarkable statement :

“ With the exception, however, of a paper by Dr. Sidney Coupland, in the *Lancet* for 1884, so far as I am aware, no attempt has been made through the medium of the medical journals to popularize the principle and remove that prejudice the undoubted existence of which, both in the professional as well as the public mind, constitutes the chief obstacle to the more general adoption of a line of treatment the practical evidence in favor of which can no longer be doubted by, I venture to affirm, any rational man.”

The writer of the foregoing paragraph has overlooked much that would interest him in the medical journals of the last five years. Not to speak of the German and French reports upon the subject, he will find that many attempts have been made in the United States to break down the barriers that are in the way of the general use of the Brand treatment. Are the writings of Baruch, Sihler, Peabody, Thompson, Wilkins, and others on this side of the Atlantic, who have reported cases and detailed the method, wholly unknown to him? Is our work in the German Hospital in Philadelphia since the beginning of 1890, the subject of repeated articles in the journals, no effort to “ popularize the principle ” and remove prejudice? We have now reported 300 cases ; Redmond’s paper is based upon four observations.

¹ Therapeutic Gazette, September 15, 1893.

